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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,684	03/30/2001	David I. Poisner	42390P10577	9233

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EXAMINER

CHEN, TSE W

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,684

Applicant(s)

POISNER ET AL.

Examiner

Tse Chen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because a brief summary of the invention is absent. See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention. Appropriate correction is required.

2. Claims 6 and 34 are objected to because of the following informalities:

- as per claim 6, the conjunction “and” on line 3 is not necessary as the previous step is not the penultimate; and
- as per claim 34, “locate a program” on line 3 should be “*load* a program” in order to be meaningful and consistent with the disclosure.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berens et al., U.S. Patent 4773036, in view of Wydall et al., U.S. Patent 6117186, hereinafter referred to as Wydall.

5. Berens taught an invention comprising of:

- configuring a mode word [column 7, lines 7-8, 19-20]; and
- detecting the insertion of a medium into a drive based on the mode word [column 7, lines 14-21].

6. However, Berens did not expressly disclose subsequent actions on the medium once insertion has been detected.

7. Wydall taught a system comprising of a CD-ROM drive to automatically start up a program on a CD medium once the insertion is detected [column 7, lines 24-30].

8. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to operate a computer system by automatically starting up programs on a peripheral drive [see Wydall: column 2, lines 30-44].

9. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens and Wydall to provide an efficient automatic program startup system based on the detection of an inserted device.

10. As per claims 2 and 14, it would have been obvious for an ordinary artisan to configure the mode word in four different modes.

11. As per claims 3 and 15, Berens taught periodically polling the drive [column 7, lines 19-21; column 8, lines 33-35].

12. As per claim 13, Berens and Wydall taught method, therefore Berens and Wydall taught product¹.

13. Claims 4, 8, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berens and Wydall as applied to claims 1 and 13 above, and further in view of Hoffman et al., U.S. Patent 5414858, hereinafter referred to as Hoffman.

14. Berens and Wydall taught an invention configuring a mode word to different modes for detecting the insertion of a medium and automatically startup a program on the medium.

15. However, Berens and Wydall did not expressly disclose detecting the insertion of a medium by an interrupt generated from the drive device.

16. Hoffman taught a system for servicing requests from devices by operating in different modes. The system is configurable to either service interrupts from devices [FIG. 3] or poll the devices directly for requests.

17. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to operate a computer system with peripheral devices by utilizing multiple modes based on interrupt and polling mechanisms [see Hoffman: column 2, lines 1-12].

¹ Tanenbaum, Andrew S., « Structured Computer Organization », 2nd Edition, Prentice Hall, 1984, pg. 11.

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18. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall and Hoffman to provide an efficient automatic program startup system utilizing both interrupt and polling modes.

19. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berens and Wydall as applied to claims 1 and 13 above, and further in view of Benhase et al., U.S. Patent 5463752, hereinafter referred to as Benhase.

20. Berens and Wydall taught an invention configuring a mode word to different modes for detecting the insertion of a medium and automatically startup a program on the medium.

21. However, Berens and Wydall did not expressly disclose a polling circuit independent from the main processor to detect the insertion of a medium and a mechanism to service interrupts generated by the polling circuit.

22. Benhase taught an independent polling circuit [FIG. 2, item 204; column 4, lines 24-32], for enhancing efficiency in a computer system, comprising of generating an interrupt to the processor to invoke the processor to read the status bit [FIG.3, items 324 and 326; column 5, lines 21-23].

23. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a separate and independent polling circuit would free up some processor time for other activities [see Benhase: column 2, lines 31-38].

24. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall and Benhase to provide an efficient automatic program startup system utilizing an independent polling circuit.

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25. Claims 6-7 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berens, Wydall and Benhase as applied to claims 5 and 17 above, and further in view of Shih et al., U.S. Patent 6405362, hereinafter referred to as Shih.

26. Berens, Wydall and Benhase taught an invention to automatically startup a program on a medium by utilizing an independent polling circuit to detect the insertion of the medium.

27. However, Berens, Wydall and Benhase did not expressly disclose updating a flag in a memory to indicate the detection of an inserted medium.

28. Shih taught an invention to automatically start a program on a medium when the insertion of the medium is detected. The invention utilizes a flag between an interrupt handler and a device driver to communicate the status of a medium insertion [column 9, lines 4-7]. The interrupt handler receives an interrupt indicating the insertion of a medium and sets a flag in shared memory for the device driver to check and take appropriate actions [column 6, lines 26-27, lines 41-46; column 7, lines 31-40]².

29. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a device driver to check a shared memory for a status flag and be responsible for the invocation of the program on the inserted medium would contribute to efficiency [see Shih: column 7, lines 31-40; column 9, lines 4-7].

30. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall, Benhase, and Shih to provide

² The shell is akin to an interrupt handler in the operating system responsible for receiving medium insertion or removal events while the operating system's event monitor is akin to a device driver setup to start a program on the inserted medium when a polling of the shared memory indicates a set flag.

an efficient automatic program startup system utilizing an independent polling circuit and a shared memory.

31. Claims 9-12, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laney et al., U.S. Patent 6366966, hereinafter referred to as Laney, in view of Benhase et al., U.S. Patent 5463752, hereinafter referred to as Benhase, and Shih et al., U.S. Patent 6405362, hereinafter referred to as Shih.

32. As per claim 9, Laney taught an invention, for automatically starting a program, comprising of:

- polling a drive to detect the insertion of a medium [FIG.2, item 210; column 2, lines 25-38]; and
- responding to a poll request by an operating system [column 2, lines 38-40].

33. However, Laney did not expressly disclose a polling circuit independent from the main processor to detect the insertion of a medium.

34. Benhase taught an independent polling circuit [FIG. 2, item 204; column 4, lines 24-32], for enhancing efficiency in a computer system, comprising of:

- setting a status bit to indicate status of polling devices [column 4, lines 50-65]; and
- generating an interrupt to the processor to invoke the processor to read the status bit [FIG.3, items 324 and 326; column 5, lines 21-23].

35. However, neither Laney nor Benhase expressly disclose updating a flag in a memory to indicate the detection of an inserted medium.

36. Shih taught an invention to automatically start a program on a medium when the insertion of the medium is detected. The invention utilizes a flag between an interrupt handler and a device driver to communicate the status of a medium insertion [column 9, lines 4-7]. The interrupt handler receives an interrupt indicating the insertion of a medium and sets a flag in shared memory for the device driver to check and take appropriate actions [column 6, lines 26-27, lines 41-46; column 7, lines 31-40]³.

37. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a separate and independent polling circuit would free up some processor time for other activities [see Benhase: column 2, lines 31-38]. Likewise, implementing a device driver to check a shared memory for a status flag and be responsible for the invocation of the program on the inserted medium would contribute to efficiency [see Shih: column 7, lines 31-40; column 9, lines 4-7].

38. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Laney, Benhase, and Shih to provide an efficient automatic program startup system utilizing an independent polling circuit and a shared memory.

39. As per claims 10 and 22, Shih taught reading a flag from memory [column 9, lines 4-7].

40. As per claims 11 and 23, Benhase taught checking the status bit set by the polling circuit [FIG. 3, items 324 and 326].

³ The shell is akin to an interrupt handler in the operating system responsible for receiving medium insertion or removal events while the operating system's event monitor is akin to a device driver setup to start a program on the inserted medium when a polling of the shared memory indicates a set flag.

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41. As per claims 12 and 24, it would be obvious to an ordinary artisan to load the program on the medium into a memory and execute the program.

42. As per claim 21, Laney, Benhase, and Shih combined taught method, therefore Laney, Benhase, and Shih taught product⁴.

43. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berens and Wydall as applied to claim 1 above, and further in view of Sakarda, U.S. Patent 6189050.

44. As per claim 25, Berens and Wydall taught an invention configuring a mode word to different modes for detecting the insertion of a medium and automatically startup a program on the medium upon detection.

45. However, Berens and Wydall did not expressly disclose a circuit independent from the main processor to service the connected drive.

46. Sakarda taught an invention to enhance the efficiency of inserting and removing devices in a computer system comprising of:

- a processor [FIG. 2, item 125];
- a chipset coupled to the processor to control a drive [column 5, lines 18-22]; and
- a memory coupled to the processor to store instruction code [FIG. 2, item 128].

47. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect an insertion event of a medium and take appropriate actions in response to the detection [see Sakarda: column 4, lines 52-65].

⁴ Tanenbaum, Andrew S., « Structured Computer Organization », 2nd Edition, Prentice Hall, 1984, pg. 11.

48. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall and Sakarda because they both direct to the problem of detecting the insertion of a device. Moreover, Sarkarda would increase the efficiency of a system with a separate control chip to service the drive.

49. As per claim 26, it would have been obvious for an ordinary artisan to configure the mode word in four different modes.

50. As per claim 27, Berens taught periodically polling the drive [column 7, lines 19-21; column 8, lines 33-35].

51. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berens, Wydall and Sakarda as applied to claim 25 above, and further in view of Hoffman et al., U.S. Patent 5414858, hereinafter referred to as Hoffman.

52. Berens, Wydall and Sakarda taught an invention configuring a mode word to different modes for detecting the insertion of a medium and automatically startup a program on the medium.

53. However, Berens, Wydall and Sakarda did not expressly disclose detecting the insertion of a medium by an interrupt generated from the drive device.

54. Hoffman taught a system for servicing requests from devices by operating in different modes. The system is configurable to either service interrupts from devices [FIG. 3] or poll the devices directly for requests.

55. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to operate a computer system with peripheral devices by utilizing multiple modes based on interrupt and polling mechanisms [see Hoffman: column 2, lines 1-12].

56. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall, Sakarda, and Hoffman to provide an efficient automatic program startup system utilizing both interrupt and polling modes.

57. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berens, Wydall and Sakarda as applied to claim 25 above, and further in view of Benhase et al., U.S. Patent 5463752, hereinafter referred to as Benhase.

58. Berens, Wydall and Sakarda taught an invention configuring a mode word to different modes for detecting the insertion of a medium and automatically startup a program on the medium.

59. However, Berens, Wydall and Sakarda did not expressly disclose a polling circuit independent from the main processor to detect the insertion of a medium and a mechanism to service interrupts generated by the polling circuit.

60. Benhase taught an independent polling circuit [FIG. 2, item 204; column 4, lines 24-32], for enhancing efficiency in a computer system, comprising of generating an interrupt to the processor to invoke the processor to read the status bit [FIG.3, items 324 and 326; column 5, lines 21-23].

61. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a separate and independent polling circuit would free up some processor time for other activities [see Benhase: column 2, lines 31-38].

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62. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall, Sakarda, and Benhase to provide an efficient automatic program startup system utilizing an independent polling circuit.

63. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berens, Wydall, Sakarda, and Benhase as applied to claim 5 above, and further in view of Shih et al., U.S. Patent 6405362, hereinafter referred to as Shih.

64. Berens, Wydall, Sakarda, and Benhase taught an invention to automatically startup a program on a medium by utilizing an independent polling circuit to detect the insertion of the medium.

65. However, Berens, Wydall, Sakarda, and Benhase did not expressly disclose updating a flag in a memory to indicate the detection of an inserted medium.

66. Shih taught an invention to automatically start a program on a medium when the insertion of the medium is detected. The invention utilizes a flag between an interrupt handler and a device driver to communicate the status of a medium insertion [column 9, lines 4-7]. The interrupt handler receives an interrupt indicating the insertion of a medium and sets a flag in shared memory for the device driver to check and take appropriate actions [column 6, lines 26-27, lines 41-46; column 7, lines 31-40]⁵.

67. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a device driver to check a shared memory for a status flag and be responsible

⁵ The shell is akin to an interrupt handler in the operating system responsible for receiving medium insertion or removal events while the operating system's event monitor is akin to a device driver setup to start a program on the inserted medium when a polling of the shared memory indicates a set flag.

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for the invocation of the program on the inserted medium would contribute to efficiency [see Shih: column 7, lines 31-40; column 9, lines 4-7].

68. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berens, Wydall, Sakarda, Benhase, and Shih to provide an efficient automatic program startup system utilizing an independent polling circuit and a shared memory.

69. Claims 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laney et al., U.S. Patent 6366966, hereinafter referred to as Laney, in view of Benhase et al., U.S. Patent 5463752, hereinafter referred to as Benhase, and Shih et al., U.S. Patent 6405362, hereinafter referred to as Shih.

70. As per claim 31, Laney taught an invention, for automatically starting a program, comprising of:

- polling a drive to detect the insertion of a medium [FIG.2, item 210; column 2, lines 25-38]; and
- responding to a poll request by an operating system [column 2, lines 38-40].

71. However, Laney did not expressly disclose a chipset independent from the main processor to detect the insertion of a medium.

72. Benhase taught a circuit connected to a host [FIG. 1, item 102; FIG. 2, item 200] to control [FIG. 2, item 202] and poll [FIG. 2, item 204] a drive, for enhancing efficiency in a computer system, comprising of:

- setting a status bit to indicate status of polling devices [column 4, lines 50-65];
and
- generating an interrupt to the processor to invoke the processor to read the status bit [FIG.3, items 324 and 326; column 5, lines 21-23].

73. However, neither Laney nor Benhase expressly disclose updating a flag in a memory to indicate the detection of an inserted medium.

74. Shih taught an invention to automatically start a program on a medium when the insertion of the medium is detected. The invention utilizes a flag between an interrupt handler and a device driver to communicate the status of a medium insertion [column 9, lines 4-7]. The interrupt handler receives an interrupt indicating the insertion of a medium and sets a flag in shared memory for the device driver to check and take appropriate actions [column 6, lines 26-27, lines 41-46; column 7, lines 31-40]⁶.

75. An ordinary artisan at the same time the invention was made would have been motivated to look for an efficient way to detect the insertion of a medium and start a program on the medium. Utilizing a separate and independent circuit would free up some processor time for other activities [see Benhase: column 2, lines 31-38]. Likewise, implementing a device driver to check a shared memory for a status flag and be responsible for the invocation of the program on the inserted medium would contribute to efficiency [see Shih: column 7, lines 31-40; column 9, lines 4-7].

76. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Laney, Benhase, and Shih to provide an

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efficient automatic program startup system utilizing an independent circuit and a shared memory within a setting well known in the art comprising of a processor and memory coupled to the processor to store program instructions.

77. As per claim 32, Shih taught reading a flag from memory [column 9, lines 4-7].

78. As per claim 33, Benhase taught checking the status bit set by the polling circuit [FIG. 3, items 324 and 326].

79. As per claim 34, it would be obvious to an ordinary artisan to load the program on the medium into a memory and execute the program.

Conclusion

80. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Radko et al., U.S. Patent 5675833, disclosed insertion-detection system comprising of a processor, memory, and controller.

b. Dokic et al., U.S. Patent 6145007, disclosed a circuitry utilizing flags to efficiently relay information.

c. DeKoning et al., U.S. Patent 6178520, disclosed a insertion-detection system for mass storages.

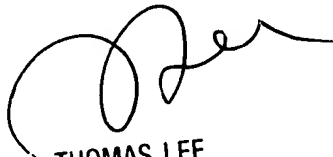
⁶ The shell is akin to an interrupt handler in the operating system responsible for receiving medium insertion or removal events while the operating system's event monitor is akin to a device driver setup to start a program on the inserted medium when a polling of the shared memory indicates a set flag.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (703) 305-8580. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
February 26, 2004



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100